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**The Study of Labor Mobility and its Impact on Regional Economic
Growth**

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Abstract

This paper, based on the reality of China, carried out empirical analysis to labor trans-regional flow status and influence on the regional economic growth. The thesis made an empirical conclusion from the following five aspects: selection of enterprise location and industrial agglomeration, regional growth effect of labor Mobility, impact on regional disparities of Labor Mobility, Labor Mobility's employment effect, and the recycling of income and price pass-through effect of Labor Mobility. And then makes predictions about development tendency of Labor Mobility in china and puts forward some countermeasures and suggestions about development strategy of promote our country's Labor Mobility.

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Starting point of Contemporary Theory of Growth: from the neoclassical growth model's perspective, the source of economic growth is not beyond the scope of increase of capital and labor and progress of technology, which is led by human factor. During the development of growth theory, human capital plays more and more important role and the understanding of the motive power of growth is deepened. The inconformity of ratio of beginning human capital stock per capita to material capital stock per capita in each region gives rise to the inconformity of regional economical growth and forms the regional income disparity. Moreover, widening of income disparity exacerbates labor mobility from the low income region to the .high income region so as to further widening of the income disparity. Thus, labor mobility has great influence on the development of the regional economy. Through analysis of current situation of labor mobility and regional economic growth , this paper explores the impact of labor mobility to regional economic growth through empirical analysis and then offer proposals for promoting labor mobility.

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1. Current situation of population and labour mobility in our country

In the 1980s, as the household responsibility system was implanted in the rural area, production efficiency of the rural labor was improved a lot which made surplus rural labor appear and changed from recessive unemployment to visible surplus. However, at that time labor mobility and migration was blocked by two factors. The first one is that industrial growth model based on the heavy industry had poor ability in absorbing surplus rural labor. The second is that planned labor allocation system I set up a firm barrier in labor mobility from industries and regions.

To find a way out, the surplus rural labor takes the advantage of exuberant market demand and insufficient supply of products in the beginning of reform and open-up and set up township enterprises to realize labor mobility and migration, namely the employment model of “leaving the farmland but not the hometown”. Surplus rural labor devoted themselves into production or service of the secondary or tertiary industry in the township enterprises. Meanwhile, they operate their own land thus helps forming the special phenomenon of “being both workers and peasants”. The rapid development of the secondary and tertiary industry results in the heavy demand of labor. After our country implement policies more flexible for rural labor to work and go into business in cities in 1984, population in regional mobility has reached 30,580,000, among which 13,000,000 move from the rural area to the urban area.

Since 1992 when Deng Xiaoping made his southern tour, our national economy entered the stage of rapid growth and the quantity of regional mobility of rural labor was increased by 10,000,000 each year. Till 1995, the mobility scale of the rural labor has been closed to 50,000,000 accounting for 14% of the rural labor force, among which 20,000,000 are through trans-provincial mobility. It forms the stage for the rural labor to migrate in large-scale from Midwest to eastern coastal developed area and from rural area to urban area. Data of The 5th population census in 2000 shows that mobility population from province to province and county to county has reached 78,756,500. According to the 6th population census, the quantity of regional mobility of rural labor has reached 221,430,000 in 2010. From this we can see that mobility of labor, rural labor in particular tends to widen.

2. Characteristic of population and labour mobility in our country

According to the development process and current situation of labor mobility and through analysis of related statistic yearbook, we can reveal several characteristics of regional labor mobility in our country:

First, the number of labor mobility grows rapidly. According to the third census in 1982, the population registered permanent residence in the field is only 657.5 million, reached 26,139 million in 2010, floating population has becomes an important factor which can not be ignored in the regional economic growth.

Second, the flow characteristics of the regional labor mobility. the main motive Outflow of rural labor force is income differences between regions, then the economically more developed and higher income urban and coastal areas, are the main areas of the rural Labor into.

Third, the distance and transport characteristics of the labor mobility. From the flow direction in the province and across provinces, the flow direction, it has basically formed three core areas based on Beijing, Jiangsu, Zhejiang, Shanghai and Guangdong, while in the west there are three subprime inflows areas based on Sichuan, Yunnan and Xinjiang These core l areas gradually attracted the surplus labor from the neighboring areas, while owing to the low cost, rail transport has also become the main form of labor transportation.

Fourth, characteristics of the way of labor mobility to go out. Because of information asymmetry, lack of employment information and the ability to analyze information, out of the rural labor force still has the typical “network” effect, that is, the labor mobility chain effect from the blood and geographical relations is very obvious.

Fifth, the employment structure features of labor mobility. Mobile labor force from rural areas are mainly engaged in manufacturing, construction, commerce and social services sectors. Take Shanghai foreign migrants for example; manufacturing, construction and commercial sectors are the main industries that 75% of the foreign migrants work in, nearly 30% of the floating rural labor is engaged in business services, food and beverage service and resident’s service.

Sixth, the educational structure of labor mobility. If we make junior high school as the standard boundaries to divide skilled labor and unskilled labors, then the ratio of skilled to unskilled migrants is 3.1:1, while the ratio of skilled to unskilled floating labor reaches 6:1, which nearly doubles the former proportion. This also shows a feature the economically developed coastal areas attract the outside labor force: Despite the higher-education labor

mobility occupy a certain percentage ,the growth rate of low education degree of non-skilled labor force is much faster than that of the higher level of education of labor mobility.

Seventh, the non-symmetrical features of the inflow and outflow in the flow area . In general, the average ratio of the inflow and outflow population in the eastern coastal regions which are the most important inflow labor areas, is 8.94.It is about 16 times the ratio of that in central regions and 4 times of that in western. If Guangxi is excluded from the eastern coastal area, the average reaches 9.74.

Eighth, the stage characteristics of labor mobility . From the above regional asymmetries and the inflow and outflow asymmetric features of labor mobility, we can see labor mobility is still at the stage of the rapid flow of skilled labor and unskilled labor to same direction.

3. Impact on regional economic growth of labor mobility

3.1 labor mobility selection of enterprise location and industrial agglomeration

As the basic elements of production, labor mobility influences the selection of enterprise location and thus affect industrial layout. With the labor mobility, the proportion of the number of the major industrial enterprises of eastern coastal areas as the main inflow areas of labor shows an upward trend .For example, modern high-tech enterprises represented by electronic and communication equipment manufacturing industries accounts for more than 86%.while the traditional industries represented by the textile industry accounts for 77% and even shows a rising trend. Of course, as far as resource-based industries, because of lack of resource in the coastal areas, the number of enterprises such as coal mining, oil and gas industry, mining industry, the tobacco processing industry, is lower. Influx of labor force in eastern coastal areas, also provides the preconditions for the entry of foreign companies who seeking the low labor force production cost, coastal foreign-invested enterprises accounted for the national 90% levels basically. Foreign-funded enterprise's entry has provided the foundation for this local economic growth and economic structure's strategic readjustment, which is conducive to further attract the inflow of foreign labor.

Rapid economic growth in eastern coastal areas, the enterprise zone location choice and its higher level of income and employment opportunities are bound to further attract factors of production labor and other production factors influx. Labor mobility is sustained economic growth in eastern coastal areas and laid a foundation of human resources, also inhibited the rapid growth of wages, and the coastal areas of the large number of unskilled labor supply, makes the coastal areas of traditional industrial gradient transfer can not be achieved , then there coastal high-tech industries and traditional industries and high-tech industries co-exist with the status of traditional industries gather together.

3.2 regional growth effect of labor mobility

Since the main outflow of the labor area has a large number of surplus labor, if this premise, then the outflow of labor for labor outflow areas, it should be said that the impact is very low. Therefore, Regional growth for the labor movement Empirical studies focuses on the analysis of labor migration's contribution to the area of labor on economic growth .Using the mode, we will take Shanghai as the research object and detail analysis of labor flows, especially foreign workers on the contribution of Shanghai's economic growth. This article takes the Cobb - Douglas function as a production function:

$$Y=A L^{\alpha} K^{\beta}$$

Among them, Y for GDP, L for employees, K for total capital, α, β respectively means GDP's labor flexibility (employment elasticity) and capital flexibility. Take logarithm type of both sides, then:

$$\log(Y) = \log(A) + \alpha \log(K) + \beta \log(L)$$

Use Solow's growth formula $y = \lambda + \alpha k + \beta l$. We can draw the Shanghai labor employment growth contribution rate to the economic growth:

$$y L = \beta l / y$$

Since this study is to reflect the labor force and the corresponding outside workforce to contribute to Shanghai's economic growth in the general case, we assume constant returns to scale which means the output elasticity of labor and capital is 1, which is means $\alpha + \beta = 1$. So, from the Cobb - Douglas functional relationship, it can be drawn the following formula:

$$Y/L = A(K/L)^{1-\alpha}$$

After taking the logarithm on both sides, we can draw that:

$$\log(Y/L) = \log A + (1-\alpha)\log(K/L)$$

So, the above formula for regression analysis to estimate the value of the parameter α will be obtained. Then use the Solow growth formula $y = \lambda + \alpha t + (1-\alpha)k$, we can also obtain the contribution rate of labor to economic growth in Shanghai: $Y = \alpha l/y$. Then, assuming that employees of extraneous labor and the local labor force are homogeneous, we can estimate the foreign workers' contribution to the economic growth of Shanghai, according to the employment situation of extraneous labor and their proportion of total employees. As the following equation:

$$y_m = L_m/L \cdot \alpha l/y$$

Where, L_m means the number of jobs that extraneous labor obtained, including the employees of migration population and floating population. Other letters expressed similar meaning as previous.

Based on the above formula, this article takes regression analysis of the date of 1989-2010 years firstly and the model was adjusted. Then the article uses α value of the year of 1989-2010, where $\alpha = 0.197141$. Conclusion follows as table 1.

Table 1: Extraneous labor contribution to economic growth in Shanghai

Year	1989	1990	1993	1995	1998	1999	2000	2003	2007	2010
Contribution of employment of extraneous labor to economic growth in Shanghai(%)	0.61	0.23	0.29	1.01	1.13	1.21	1.27	1.47	1.39	1.50
Extraneous labor contribution to economic growth in Shanghai(%)	20.17	6.70	1.96	7.98	8.36	9.28	11.75	12.17	12.07	12.78

From Table 1, extraneous labor contribute to Shanghai's economic growth is clear. The GDP of Shanghai in 2010 is 9.9%, where 12.78% of the share is contributed by the extraneous labor. That is 1.50 percentage points which is generated by the labor movement. Thus, with the further expansion of Shanghai's economy, the "four canters" development strategies, and services as the main body of the industrial structure adjustment, the extraneous labor in Shanghai's economic growth will play a greater impact role. It also shows that extraneous labor, or labor mobility factor become an important factor on economic growth in Shanghai. In addition, the Shanghai-based development of tertiary industry and its strategic shift to increase the employment elasticity has a year to year trend, from 0.08 in 1990 rose to 0.68 in 2000, and the city's average growth of the tertiary industry employment elasticity of 0.43. From Shanghai and other economically developed areas of the employment elasticity of economic growth point of view, the long-term average of about 0.2706. If the GDP of Shanghai keeps a growth rate of 11% each year, the increment speed of employment will keep about 3%. Because the growth rate of natural population of Shanghai has been negative growth since 1993, and the supply of local labor force also shows a decline trend. In order to support the economic growth of Shanghai and further strategic adjustment of industrial structure, the inflow of outside labor will play a positive role.

3.3 The influence of Labor Migration on Regional Disparity in China

In theory, rural labor force is surplus now, that there is zero marginal product of labor conditions, then the flow of rural labor force must play an important role in increasing overall family income. We analyze labor migration tendency of different income levels to understand the effect of mobility of labor in economically developed areas and the rural areas on the labor income gap. We get the following conclusions: First, labor mobility levels of income status of the Widen income gap in rural areas, especially the gap between the highest income and lowest income levels have expanded. Second, the labor force and labor out of the main inflow to the relative gap between income levels declined slightly, but the absolute gap did not decline, and it has the potential to expand, which makes the rural labor force of the backward areas will continue to flow to the economically developed regions.

3.4 The Employment Effects of Labor Mobility

The segmentation of the labor market of developed regions led that modern high-tech industries and traditional industries co-exist in coastal areas, making the transfer or movement of labor replaced the industrial transfer, so the dual industrial structure of coastal areas have been maintained. Since the high living cost of local labor and other causes led the comparative advantage of Foreign labor to the local workforce, resulting in the substitution effect of foreign workers to local labor force. The authors combine statistical data and other domestic scholars' researches, and research the substitution effect of foreign workers to local labor force from the following aspects:

First, the educational level of labor force in its inflow areas. Basically, labor inflow region is the most developed areas of national economy, and one of the important developed economy marks is greatly increase of educational level. Taking Shanghai as an example, nearly 80% of the high school students can go to university, if plus high school of technical secondary school, vocational technical secondary school, about 90% of the students can accept the formal education above technical secondary school, while people who have Technical school graduation and above education background accounts for low proportion of unemployment. Therefore, from this perspective, it is limited that extraneous labor extrusion or replace the local workforce in industry or position which has high request to skills.

Secondly, structure difference of employment sectors between extraneous labor and urban labor.

Table2: Comparison of extraneous labor and urban labor's employment sectors, units: %

Employment sectors	Self-employed	Private enterprise	Collective enterprise	Joint venture enterprise	State-owned enterprise	Others
Extraneous labor	12.12	16.13	36.82	2.33	32.29	0.13
Urban labor	3.83	5.87	16.21	1.56	69.29	3.26

Note: the data of extraneous labor comes from research group's sample survey in Ji Nan. Source of data: from "Research Team on Chinese Big Cities Absorbing Rural Labor; Economic Transformation, Development of Labor Market and Rural Floating Labor", listed in <China Rural Survey>, 1996, 5.

Table2 illustrate that: extraneous labor's employment sectors consist of Collective enterprise, State-owned enterprise, Private enterprise and Self-employed, while urban labor focus on State-owned enterprise, the proportion reached 69.29%. However, the second sector's proportion is only 16.21%. Consequently, the difference of employment sectors between extraneous labor and urban labor shows: extraneous labor has no or less substitution effect on employment of the original urban labor.

WangGuiXin and ShenJianJie (2001) took a detailed research on substitutional relation of extraneous labor and urban labor's employment in ShangHai. Through the investigation and study they found, the relation between extraneous labor and local labor is complementation more than replace. Extraneous labor can not form the substitution effect in primary industry; the opportunity exists mainly in the second and third industry.

3.5 Income backflow and price regional transfer effect of labour mobility

Because of family relations between temporary floating labor and outflows region, some even most income of labor who goes out will flow back to their native place, the backflow effect performance specific in the following respects: First, some income as investment capital flow back to labor outflow areas, so that the original outflow labor flow back in type of capital, become one way of the labor outflow areas accumulating seed capital. Second, income backflow effect of labor mobility is also reflected in: the most income will be taken back to the labor outflow areas by mail or in the form of cash, and becomes an important source of rural family incomes.

As the income backflow of labor mobility, which lead to the increase of local market demand and price level, then, the price regional transfer effect of labor mobility comes up. On the one hand it reflects in purchase of

rural production material and improvement of production efficiency; on the other hand it is also manifest in the housing construction of migrant workers' families.

Whether the increase of local production material needs or the increase needs of rural residential construction, or the rural the transformation of the industrial structure and economic growth produced by the primitive capital accumulation, all of these will make the labor outflow areas' price level up. Of course, price transmission mechanism by income backflow of labor mobility has smaller effect to the labor outflow areas' overall price level. however, it has an adversely effected to the price of production materials and building materials.

4. Conclusions And Suggestions

4.1 Trend of labor mobility and the corresponding development strategy

At present, because the difference of economic growth and income level between China's eastern and western, flow personnel (mainly rural labor force) who is for the purpose of to obtain high yield will certainly to speed up the flow of speed. With gradual reform of China's household registration system and population flow system, we will greet the big climax of labor mobility.

Mobility of labor (especially the rural labor force) is a necessary trend of China's future economic growth, the difference of economic growth and income level between China's eastern and western will make labor mobility an important endogenous variable. Therefore, the chosen of China's labor flow development strategy has specific historical meaning: Labor mobility combines with China's urbanization strategy and development strategy gives priority to urban agglomeration.

4.2 Suggestions to promote the country's labor flow policy

In view of China's big climax of labor mobility and the implementation of the urbanization strategy, when they making the policy, government should consider the following questions:

First, secondary education and vocational and technical education as the core of human capital policy. Provinces of labor outflow should consider to strengthen the education of professional skills and Senior skilled workers through the reform of education system, not to put emphasis on the higher education; The national education system should reflect the employment as the core of human capital growth policies, rather than just pay attention to university education or graduate education.

Second, government of labor inflow regions should not only consider the introduction of high-tech talent, but also the skilled talents especially senior technician staffs, and developed economic regions are also confronted with aging of population, so government should also consider social service demand of all levels and various sectors, and take an active attitude to attract the foreign skilled labor.

Third, to promote the construction of the national social security system, form the basic guarantee of labor flow and promote the big flow of labor. Land as the life security of rural labor and family; provide a basic life guarantee for stabilizing the rural economy and the rural labor out.

Fourth, gradually break institutional obstacles between urban-rural Labor market, to create a fairer competitive market, and the farmers to enjoy treatment of equal pay for equal work, namely, a "civil treatment". It also make regional gap into internal gap between area, to benefit for the smaller gap between regions and the regional internal.

Fifth, realize the development strategy of industrialization promoting urbanization by increasing public infrastructure construction. roads, airports and other public goods can increase through the large-scale infrastructure construction, at the same time, more rural labor are transferred to non-agricultural industries with higher income, achieving non-agricultural employment. It changes the peasants' income source, and raises the overall level of income, which will promote the effective demand to increase and the expansion of the market, and further promote the development of non-agriculture employment, forming a benign economic growth cycle.

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